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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,756	01/28/2004	Masanobu Sato	P/2699-32	5571
2352 7590 06/26/2007 OSTROLENK FABER GERB & SOFFEN 1180 AVENUE OF THE AMERICAS NEW YORK, NY 100368403			EXAMINER KORNAKOV, MIKHAIL	
			ART UNIT 1746	PAPER NUMBER
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of claims 1-4 and cancellation of claims 5-13 in the reply filed on 04/16/2007 is acknowledged.
2. In view of the papers filed 04/16/2007, the inventorship in this nonprovisional application has been changed by the deletion of Shuichi Yasuda as an inventor.
3. Claims 1-4 are currently pending and examined on the merits.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kanno et al (U.S. 5,918,817).

Kanno teaches a method of treating semiconductor substrate. The method of Kanno comprises generating droplets of a treatment liquid by mixing the treatment liquid with a gas, wherein the size of the droplet particle is about 10  $\mu\text{m}$ ; impinging the droplets on a surface of the substrate. With regard to claims 3 and 4, since Kanno teaches supplying the treatment liquid at a flow rate of about 100 ml/min, which is identical to the flow rate of claim 4, since Kanno teaches the droplet size of about 10  $\mu\text{m}$ , which is within the instantly claimed ranges, the flow rate of the gas for generating such droplets would inherently be within the range as per claim 3.

Furthermore, even if the reference to Kanno is removed from the scope of 35 U.S.C. 102 (b) rejection with regard to claims 3 and 4, one skilled in the art still obviously will come to the gas supply pressure, which corresponds to the gas amount and, therefore, gas flow rate as claimed in order to produce liquid droplets of about 10  $\mu\text{m}$  while supplying a treatment liquid into the cleaning jet nozzle of Kanno at the rate of about 100ml/min.

7. Claims 1-4 are rejected under 35 U.S.C. 102(a) as being anticipated by Izumi et al (U.S. 2003/0170988).

Izumi teaches a substrate treatment method comprising generating droplets of a treatment liquid by mixing the treatment liquid with compressed air in a bi-fluid nozzle; impinging the droplets on a surface of the substrate, wherein the flow rate of the

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compressed air introduced into the bi-fluid nozzle is 50 to 100 l/min, and the flow rate of the treatment liquid introduced into the bi-fluid nozzle is 100 to 150 ml/min. Droplets of the treatment liquid provided under such conditions each had a diameter of about 5 to about 20  $\mu\text{m}$  (0131).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Kornakov whose telephone number is (571) 272-1303. The examiner can normally be reached on 9:00am - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Barr can be reached on (571) 272-1414. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

*M. Kornakov*  
*06/13/07*

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